

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier listings and all earlier versions:

Claim 1. (Currently Amended) An image processing apparatus for generating image data of a document by processing document data representing the document and described in a predetermined structured description language, comprising:

analysis means for analyzing the document data and recognizing font size information contained in the document data, the font size information being information on the font size applied to a character or a character train contained in the document represented by the document data, and for recognizing the character or the character train contained in the document represented by the document data to which the font size information is applied;

instruction input means for entering information relating to a standard font size to be used for formatting the document data for printing on at least one physical page; and

drawing means for executing a drawing process such that data representing the character or the character train recognized by said analysis means is outputted for printing on the at least one physical page at the standard font size entered by said instruction input means instead of the font size represented by the font size information contained in the document data,

wherein the document data does not include a concept of page.

Claim 2. (Previously Presented) An apparatus according to claim 1, wherein:

said analysis means calculates a magnification change rate utilizing the font size information contained in the document data, and information relating to the standard font size entered by said instruction input means; and

said drawing means executes the drawing process by changing the magnification of the character or the character train, to which said font size information is applied, by the magnification change rate so as to output for printing on the at least one physical page data representing the character or the character train at the standard font size.

Claim 3. (Previously Presented) An apparatus according to claim 1, wherein:

the document data include information for designating a specified font size for a specified character, or a specified character train recognizable by said analysis means; and

said drawing means executes the drawing process such that data representing the specified character or the specified character train, for which the specified font size is designated, is outputted for printing on the at least one physical page at the standard font size entered by said instruction input means regardless of the information designating the specified font size.

Claim 4. (Previously Presented) An apparatus according to claim 1, wherein:

the standard font size is designatable by the document data;

said analysis means calculates a magnification change rate utilizing a base

font size and the standard font size entered by said instruction input means; and

said drawing means executes the drawing process by applying the magnification change rate to the entire character information contained in the document data in such a manner that data representing a character or a character train, to which the base font size is applied, is outputted for printing on the at least one physical page at the standard font size entered by said instruction input means.

Claim 5. (Previously Presented) An apparatus according to claim 1, wherein:

said analysis means recognizes the most frequent font size occurring in the document data ; and

said drawing means executes the drawing process such that data representing a character or a character train, to which the most frequent font size recognized by said analysis means is applied, is outputted for printing on the at least one physical page at the standard font size entered by said instruction input means.

Claim 6. (Previously Presented) An apparatus according to claim 1, wherein:

said analysis means recognizes a minimum font size in the document data;
and

said drawing means executes the drawing process such that data representing character information formatted for printing on the at least one physical page is outputted for printing on the at least one physical page at a font size at least equal to the standard

font size entered by said instruction input means when said analysis means recognizes the minimum font size.

Claim 7. (Previously Presented) An apparatus according to claim 1, wherein:

the document data includes at least object data representing an image or a table and the character or the character train;

said analysis means detects the size of an image represented by the object data; and

said drawing means executes a drawing process such that data representing the image or the table formatted to fit and be printed on the at least one physical page is outputted after said analysis means detects the size of the image and that data representing the character or the character train contained in the document data is outputting for printing on the at least one physical page at the standard font size entered by said instruction input means.

Claim 8. (Previously Presented) An apparatus according to claim 1, wherein:

the document data includes at least object data representing an image or a table and the character or the character train;

said analysis means detects the size of the image represented by the object data; and

said drawing means executes the drawing process such that the image, when printed on the at least one physical page, is subjected to a magnification change according

to the width of the least one physical page on which the image is to be printed and that data representing the character or the character train contained in the document data is outputted for printing on the at least one physical page at the standard font size entered by said instruction input means.

Claim 9. (Previously Presented) An apparatus according to claim 1, wherein said apparatus communicates with an arbitrary server apparatus for receiving and processing the document data.

Claim 10. (Previously Presented) An apparatus according to claim 1, further comprising selection means for selecting a method of formatting the document data to be printed on the at least one physical page according to an instruction of the user, wherein a method for calculating a magnification change rate changing the magnification of the character or the character train is determined according to the result of the selection by said selection means.

Claim 11. (Previously Presented) An apparatus according to claim 1, further comprising a printing unit configured to print the document in accordance with the drawing process executed said drawing means.

Claim 12. (Original) An apparatus according to claim 1, wherein said apparatus is a printer.

Claim 13. (Currently Amended) An image processing method for generating image data of a document by processing document data, representing the document, described in a predetermined structured description language, comprising:

an analysis step of analyzing the document data and recognizing font size information contained in the document data, the font size information being information on the font size applied to a character or a character train contained in the document represented by the document data, and for recognizing the character or the character train in the document data to which the font size information is applied;

an instruction input step of entering information relating to a standard font size to be used for formatting the document data for printing on at least one physical page; and

a drawing step of executing a drawing process such that data representing the character or the character train recognized by said analysis step is outputted for printing at the standard font size entered by said instruction input step, instead of the font size represented by the font size information contained in the document data,

wherein the document data does not include a concept of page.

Claim 14. (Previously Presented) A method according to claim 13, wherein:

said analysis step calculates a magnification change rate utilizing the font size information indicated by specified character information contained in the document data, and information relating to the standard font size entered by said instruction input step; and

said drawing step executes a drawing process such that data representing a

character or a character train, indicated by the specified character information is outputted for printing on the at least one physical sheet at a font size changed by the magnification change rate calculated in said analysis step.

Claim 15. (Previously Presented) A method according to claim 13, wherein:

the document data include information for designating a specified font size for a specified character or a specified character train recognized by said analysis step; and

said drawing step executes the drawing process such that data representing the character or the character train, for which the specified font size is designated, is outputted for printing on the at least one physical page at the standard font size entered by said instruction input step regardless of the information designating the specified font size.

Claim 16. (Previously Presented) A method according to claim 13, wherein:

the standard font size is designatable by the document data;

said analysis step calculates a magnification change rate utilizing a base font size and the standard font size entered by said instruction input step; and

said drawing step is executed by applying the magnification change rate to the entire character information contained in the document data such that data representing a character or a character train, to which the base font size is applied, is outputted for printing on the at least one physical page at the standard font size entered by said instruction input step.

Claim 17. (Previously Presented) A method according to claim 13, wherein:

said analysis step recognizes a minimum font size in the document data;

and

said drawing step executes the drawing process such that data representing character information formatted for printing on the at least one physical page is outputted for printing on the at least one physical page at a font size at least equal to the standard font size entered by said instruction input step when said analysis step recognizes the minimum font size.

Claim 18. (Previously Presented) A method according to claim 13, wherein:

the document data includes at least object data representing an image or a table and the character or the character train;

said analysis step detects the size of the image represented by the object data; and

said drawing step executes the drawing process such that data representing the image or the table formatted to fit and be printed on the least one physical page is outputted after said analysis step detects the size of the image, and that data representing the character or the character train contained in the document data is outputted for printing on the at least one physical page at the standard font size entered by said instruction input step.

Claim 19. (Previously Presented) A method according to claim 13, wherein:

the document data includes at least object data representing an image or a table and the character or the character train;

said analysis step detects the size of an image represented by the object data; and

said drawing step executes a drawing process such that the image, when printed on the at least one physical page, is subjected to a magnification change according to the width of the at least one physical page on which the image is to be printed and that data representing the character or the character train contained in the document data is outputted for printing on the at least one physical page at the standard font size entered by said instruction input step.

Claim 20. (Previously Presented) A method according to claim 13, further comprising an acquisition step of communicating with an arbitrary server apparatus for receiving and processing the document data.

Claim 21. (Previously Presented) A method according to claim 13, further comprising a selection step of selecting a method of formatting the document data to be printed on the physical page according to an instruction of the user, wherein a calculation method for calculating a magnification change rate changing the magnification of the character or character train is determined according to the result of the selection by said selection step.

Claim 22. (Previously Presented) A method according to claim 13, further comprising a printing step of printing the document in accordance with the drawing process executed in said drawing step.

Claim 23. (Original) A method according to claim 13, wherein said method is used in a printer.

Claim 24. (Currently Amended) A computer readable memory medium storing a program for causing a computer to execute an image processing method for generating image data of a document by processing document data representing the document and described in a predetermined structured description language, the method comprising:

an analysis step of analyzing the document data and recognizing font size information contained in the document data, the font size information being information on the font size applied to a character or a character train contained in the document represented by the document data, and recognizing the character or the character train in the document represented by the document data to which the font size information is applied;

an instruction input step of entering information relating to a standard font size to be used for formatting the document data for printing on at least one physical page; and

a drawing step of executing a drawing process such that data representing the character or the character train recognized by said analysis step is outputted for printing at the standard font size entered by said instruction input step, instead of the font size represented by

the font size information contained in the document data,

wherein the document data does not include a concept of page.

Claims 25 - 37 (Canceled)

Claim 38. (Previously Presented) An image processing method according to claim 19, further comprising a format process step for scaling each character in the document to a base character size when data representing the document is outputted for printing on the at least one physical page in said drawing step, based on a font size designated in print set information and the standard font size inputted by said instruction input step.

Claim 39. (Currently Amended) A computer readable memory medium storing a program for causing a computer to execute an image processing method for processing document data representing a document and described by a predetermined structured description language and executing a drawing process by communicating with an arbitrary server apparatus, the method comprising:

an instruction input step of entering print set information related to a standard font size to be used in formatting the document for drawing on at least one physical page or executing a printing process for drawing the document on the at least one physical page using the standard font size;

a transmission step of transmitting a reference print instruction including

the print set information entered by said instruction input step to a designated server apparatus;

an acquisition step of acquiring, from the designated server apparatus, the document data, which are acquired from an acquisition source indicated by the reference print instruction and processed by the designated server apparatus, the acquired document data containing information on a font size of a character in the document represented by the document data; and

a drawing step of drawing the document represented by the document data acquired by said acquisition step from the designated server apparatus at the standard font size entered by said instruction input step, instead of the font size represented by the font size information contained in the document data,

wherein the document data does not include a concept of page.

Claim 40. (Currently Amended) A computer readable memory medium storing a program for causing a computer to execute an image processing method in a server apparatus provided with storage means for storing document data representing a document and described by a predetermined structured description language and adapted for controlling the transmission of the document data described by the predetermined structured description language by communicating with an arbitrary image processing apparatus, the method comprising:

an acquisition step of acquiring a resource required for formatting the document;

a detection step of analyzing a reference print instruction acquired from any image processing apparatus and detecting print set information;

a format process step of formatting the document data stored in the storage means for printing on at least one physical page at a predetermined font size based on the print set information detected by said detection step and the resource acquired by said acquisition step regardless of information for designating a font size contained in the stored document data described by the predetermined structured description language or by the resource; and

a transmission step of transmitting the document data, subjected to formatting by said format process step, to any image processing apparatus requesting the reference print instruction.

wherein the document data does not include a concept of page.

Claim 41. (Currently Amended) An image processing apparatus for generating image data of a structured document by processing document data, representing the structured document, described by a predetermined structured description language, comprising:

analysis means for analyzing the document data and recognizing character information representing a character or a character train contained in the document data; and

drawing means for executing a drawing process such that data representing the character or the character train recognized by said analysis means is outputted for printing on at least one physical page at a predetermined font size regardless of information for designating a font size, set for the character information in the document data representing the structured

document,

wherein the document data does not include a concept of page.

Claim 42. (Previously Presented) An apparatus according to claim 41,

wherein:

the predetermined font size is entered by instruction input means of said image processing apparatus;

the document data include information for designating a font size for a specific character or a specific character train recognized by said analysis means,

said analysis means calculates a magnification change rate based on the font size of the specified character or the specified character train and the predetermined font size; and

said drawing means executes the drawing process by changing the magnification of the specified character or the specified character train with the magnification change rate, such that data representing the specified character or character train is outputted for printing on the at least one physical page at the predetermined font size, regardless of the information for designating the font size, set for the character information in the document data representing the structured document.

Claim 43. (Previously Presented) An apparatus according to claim 41,

wherein:

the document data include at least object data representing an image;

the document data include information for designating a font size for a specific character or a specific character train recognized by said analysis means,

data representing the specified character or character train is outputted for printing on the at least one physical page at the predetermined font size; and

the image represented by the object data included in the document data is subjected to a change in the magnification according to the page size of the at least one physical page on which the image represented by the object will be printed.

Claim 44. (Previously Presented) An apparatus according to claim 41, wherein information designating the font size and set for a character in the structured document is described by tag information designating the font size in HTML or XML.

Claim 45. (Currently Amended) An image processing method for generating image data of a structured document by processing document data, representing the structured document, described by a predetermined structured description language, comprising:

an analysis step of analyzing the document data and recognizing character information including a character or a character train contained in the document data; and

a drawing step of executing a drawing process such that data representing the character or the character train recognized by said analysis step is outputted for printing on at least one physical page at a predetermined font size regardless of information for designating a

font size, set for the character information in the document data representing the structured document,

wherein the document data does not include a concept of page.

Claim 46. (New) An image processing apparatus for generating image data of a document by processing document data representing the document and described in a predetermined structured description language, comprising:

analysis means for analyzing character information included in the document data; and

output means for executing an output process such that even if the document data includes designation of a certain font size for a character corresponding to the character information analyzed by said analysis means, the character may be outputted at a different font size,

wherein said analysis means determines, based on a base font size designated in the document data and a desired output font size entered, a magnification to be applied to the character information analyzed by said analysis means such that a character for which the base font size is designated may be outputted at the desired output font size, and

wherein said output means executes the output process based on the magnification determined by said analysis means.

Claim 47. (New) An image processing method for generating image data of a document by processing document data representing the document and described in a predetermined structured description language, comprising:

an analysis step of analyzing character information included in the document data; and

an output step of executing an output process such that even if the document data includes designation of a certain font size for a character corresponding to the character information analyzed in said analysis step, the character may be outputted at a different font size,

wherein said analysis step determines, based on a base font size designated in the document data and a desired output font size entered, a magnification to be applied to the character information analyzed in said analysis step such that a character for which the base font size is designated may be outputted at the desired output font size, and

wherein said output step executes the output process based on the magnification determined in said analysis step.

Claim 48. (New) A computer readable memory medium storing a program for causing a computer to execute an image processing method for generating image data of a document by processing document data representing the document and described in a predetermined structured description language, the method comprising:

an analysis step of analyzing character information included in the document data; and

an output step of executing an output process such that even if the document data includes designation of a certain font size for a character corresponding to the character information analyzed in said analysis step, the character may be outputted at a different font size,

wherein said analysis step determines, based on a base font size designated in the document data and a desired output font size entered, a magnification to be applied to the character information analyzed in said analysis step such that a character for which the base font size is designated may be outputted at the desired output font size, and

wherein said output step executes the output process based on the magnification determined in said analysis step.